I-RECOVERY KERNEL

Umlomo kunye neSeri yokuphunyezwa.

I-CHRYSALIS.

Umfundo weendalo, iintlobo zezinto ezikhoyo, kunye nenyaniso yokutshintsha.

Ndingayazi ukuba yintoni enzekayo ngaphakathi kwencibilikazi.

Inkqukwe yentliziyo yokuziphatha yenkukwe iyasilela iindawo zayo. Ama-enzima okutshiselwa ayalusa umzimba abe ngumthamo wemifuno. Amanye amanqaku amanyelwa ayafakwa. Kuphela amaqela embaleki yamacandelo asilaliyo—iidiski zamagcisa—ayahlala. Leedi diski zilungisa lo mthamo kwaye zakha intyila.

I-ntengwe ayilona uphaphu olungcono kakhulu. Yinto eyahlukileyo ekwakhiwe kumalungu akhutshwe. Kwaye inkumbulo—ukulala okufunyenweyo ngokuphaphu ngexesha lobomi bakhe—iyasinda ekuhlambululeni.

Catharsis – Intsizi kunye nento eyenzeka ngoko.

I-CENTURION – Kusetyenziswa igama elivela kwiGrekisi, "κάθαρσις," elitshisa ukuhlaliswa. Ukukhululwa kwento eyayigcinwe ixesha elide.

UCatharsis uneemvakalelo ezimbini ezihlangana kwinkqubo enye. UHippocrates wayisisebenzisa kwiimonakalo—ukuhlaziywa okukhuculisayo esusa izinto eziphelelweyo emzimbeni. UWAristotle wayisisebenzisa kwezentlalo—ukuhlaziywa lwentliziyo kunye nombuzo obanga kukudibana kwabantu ababambe ilizwi ngomdlalo omkhulu. Indlela eyenza ukuba zibandakanywe: kumacala amabini, i-catharsis yinto equlunqwa xa into ebile, ibekwe, kwaye idityaniswe ngokukhawuleza ikhutshelwa phambili.

Umntu osindileyo upho umthombo. Ubunzima bomthetho, welengiso, kunye nobuhlungu obuthile obubangelwa kukuba kunjalo. Ukukhululeka akukho ukuhlala ngobunzima bendawo. Yinkqubo yokukhulula – ukuguqulela ubunzima obugcinwe kwinto ethile eyadlala kwiindawo zombili kwaye iphume ngendlela eyahlukeleyo kunye nayo. Isitya ayahlali lihleliyo. Kuphembelelo ngaphakathi kwaso olulahlekelwa.

Iidrama yaseGibhithe linikezile indlela ekwakhelwe ngayo kwiindawo zaseklasini: i-amphitheatre, umlingo owabiweyo, umntu osibonakalayo, inkqubo yesintu enika amandla ukuba kunamandla emizwa ngaphandle kokutshisa umntu onwazo. Imvelo inikeza uhlobo olwahlukileyo lwendlela. Inja eyenza into yayilakhiwe ukuba yenze—ukuphuma, ukuzulazula, ukubuyela, ukuvela—inika umntu osibonakalayo indlela yokulandelela oko kwenzeka ngaphakathi kwabo.

Yintoni okufunekayo kwi-Catharsis?

Element	Emvelweni.	Kwiinkqubo zonyango.
Iphethelele.	I-chrysalis. Ilwandle elikhazimla amatyala. Igumbi elingaphantsi kwendalo aphumla kulo i-cicada. Isikhwama esithwalwa yinkawu.	Ixesha lokuphucuka lwangaphambili. Uhlelo lwansuku zonke. Indalo ngokwayo—inkulu ngokwaneleyo ukubamba udlambano kunye namanyonyo ngaphandle kokuba yahlaziywe ngayo.
Imvume.	Umhlaba wonke akuxhishiswanga ngokuphazamiseka. Inkqubo yezempilo ye-caterpillar ayibuze ukuba okuphazamiseko kufanelekile na. Le nkqubo iqala xa imigaqo ifanele.	Umvume yokuziva okubekwe – ngokupheleleyo, ngaphandle kokulawula imizwa yenzelwe ukukhululeka kwabanye, nangokungazami ukuyenza ibe ngumthombo omncinci. Le mvume inikezwe kuphela umntu oqinileko.
Umbonisi.	Umvelisi onokwazi obona intliziyo esiphuma kwi-chrysalis ngokuchanekileyo—engenzi izinto, engalufaki ulwazi lwakhe, kodwa nje uyibona. Umboni akawenzi nto. Umboni ukhona kwaye unokuchanekile.	Ingxenye yomntu enokubona ukukhululeka kwemozulu ngaphandle kokuba yahlaziywe kukho. Ubunyaniso bomtshiselwa. Ingxenye ethi: "Ngalo budlova, kwaye ubudlova buyafaneleka apha."
Ukuhlanganiswa.	I-ntengwe ayikhumbuli ilokhothi ngoxala. Iinyosi ezifelela kwindawo yokuzalwa zifezele uhambo lwazo – ukufinelwa kulo umfanekiso.	Ukuthetha okufunyenwe emva kokukhululwa. Yintoni enkululekileyo le nakuba kunjalo? Iimfanelo zendlovukazi ezilandelayo yizixhobo zokuqinisana—zinikeza ulwazi umgca omkhulu kunomlando womntu.

Isiqendu 2 — Isigaba se-Pupal: Ubunyulo bokuhlaziywa.

I-CENTURION – Intyaba Yayisele Kwinkukhu. Amadiski eSibindi Ayeyikhona.

Nento eyenziwa ngobomi kwiintshwana ezithatha iindlela zokuguquka okugqityweyo (holometabolous metamorphosis) ibaluleke kakhulu kunoko esikwazi, kwaye yinto emangalisa.

Xesha esikhulisiwe sivala kwaye utshintsho uqala, inkqubo yezempilo iqalisa into enokuthi kwelinye ithuba ibizwa ngokuba "ukutshabalalisa kweengxenye zomzimba." Iintyila zokudla zigcwala umva womzimba. Izicubu zemisipha, izicubu zamanye amanzi, iinqwaba zezixhobo — zithatywe kwaye ziba yinto abafundi bezendalo bayibiza ngokuba "isidlo somntu," isihluzo esinezinto ezifunyenweyo ezineenzakelo ezininzi ezinokusetyenziswa.

Into eyinto engaqaleki ukuhlaziywa: iidiski zomboniso. Ezi ziindawo zezicelo ezingahlukaniswanga ezikhoyo kwinkukhu ukususka ekuqaleni—zithule, ziphathwe, zilindelayo. Yile ndlela yokwakha. Zihlala kuyo yonke impilo yenkukhu ngaphandle kokusebenzisa. Inkqubo yezempucuko yenkukhu iqala kwinto engabonakali kwaye ingaqalanga ukuyilwa.

Kwiindawo ezomileyo, iidiski zokwenziwa zisenza msebenzi. Zihlela izinto ezinxibe ngakumbi kwaye ziqala ukuzakha. Zenza amabanga, imilebhu emikhulu, uhlelo lokuphefumula olwahlukileyo, kunye ne-proboscis. Ibhaphathene yenziwa kwinto eyayinxibe kakhulu ngumlanjeni.

Iqiniso lobuzwakashi.	Ndingayenza ntoni?
Iidiski zombuso zazikhona kwinkukhu ukususka ekuqaleni. Azizange zifike ngexesha lokuguquka. Zihlala ngaphakathi kunkukhu yonke imihla, zingathuthwa, zilindelwe iimeko ezazivumela ukuba zivele.	Umntu onayo into yenzelweyo ubilapho ukusukela ekuqaleni. Akazange adalwe ngumkhuba, akazange asulwe ngowo. Uyilakhiwe kwaye ulindele ixesha lokuba uphile. Iimeko ezivumela lo mntu ukuba aphile—ukulahlwa kweendlela endaweni yokuqaleka, ukufumaneka kwemixube entsha—ngoo "meeko zokubuyela ebuntwini."
Inkumbulo ihlala kwiintlungu. Izifundo ezibanjelwe kumatyana abukhoboni zibonise ukuba imatyana abukhoboni igcina izimpendulo ezifundisiweyo eziyilwa njengamatyana—inkumbulo eyayikhutshwana yayigcinwe ngokuphoselwa. Ulwazi oluthathwe yintyane alususiwanga. Yayihambile.	Ulwazi olufunyenwe ebomini ngaphambi, ngexesha, nakwiintsuku zokuxhwala alulahleki. Yile ndlela esezisusela kuyo ukubuyela kwakhawulelwe. Umntu ophilisa akusebenza kungekho nto—uqala kumgangatho ongenamsebenzi kodwa unolwazi olufunyenwe ngokuqinisekileyo. Ulwazi olunzulu luhlala kwiingxaki.

I-chrysalis ayinakuvulwa ngaphandle. I-bhathreyi eyancediswa phambi kokuba iphelele ayaphilisi—umzabalazo wokukhuliswa kwizinga lokunyuka luyakha amandla ewinga enza ukunyaniseka kube nokwenzeka.	Inkqubo yokulazwa ayidingeki ukufutshwana ngamanye amanyathelo angaphandle, kuba oku kungathinte imandla eyenziweyo kwiindlela zokulwela. Inkathazo ayiyonto kufuneka ixazulwe. Yintambo yokuqeqesha.

ISEKSIYENI 3 — IIMODELI ZEZINDAWO.

Iminqwadamisa kwiZifundo zeNtshintsho.

Iziimfuyo ngazinye zikhankanyaleyo yifundo ethile, hhayi nje isisombululo esijongene nabo bonke. Iinolwazi lobomi ezichanekileyo. Ukufanisa nokuvuswa kusebenza—kuyabonakala kulokho imfuyo eyenza ngokoqobo. Funda ezi zinto njengenkqubo yencwadi yezilwanyana: unyamekelo oluqinile kuluhlobo lwempilo, kulokho into ethile le mfuyo ifumene engathi uza kuyifumana nawe.

I. I-Monarch Butterfly – Danaus plexippus.

I-monarch ihamba imigqa emide eziyi-2000 ukuya kwi-3000 maili ukusuka eCanada uye kumahlathi athile eMexico - oonawo abakhulu bayo bashiywe ngabazali bakhe abayiinyanga ezikhulu ngaphambili, kwaye ayikaze azivakashele. Ulwazi lwasemzini oluyimfuneko lokufumana le phondo ethile, la matye emithi oyamel, lubekwe kwinkqubo yezifo ye-monarch ingakhozonakalalwa ngomlando womntu ngamnye.

I-monarch isebenza ngamanyathelo amaninzi ngaxeshana: ubume lwelanga (lahlaziywe ngokwexesha yosuku usebenzisa iwotshi yangaphakathi), umgangatho womhlaba, kunye neepatheni zokukhanya eziluhlaza ezingabonakalisiyo kumaxesha abantu. Xa la manyathelo abonakala ukuba ahambelana kabi, i-monarch ihlanganisa wonke amanyathelo kwaye iyaqhubeka.

Yenza nantoni na.	Yintoni okufundiswa yiMonarch?
Iyahamba kwindawo ayikaze iye khona—indlu enayo ngaphakathi kwayo, kunokuba kulinkumbulo. Isebenzisa iindlela ezininzi zokuqondiswa ndaweni ngokuxhasa. Le nhlelo ihlala ixesha elide kunempilo yombane omnye—iyiwa kwizukulwana.	Iindlela zokubuyela kwesimo esihle azihlali zifumaneka ngokulula kwiimeko ezikhoyo. Kodwa into ethile kuluhlu lwemisebenzi yaye iyazi ukuba hlalani. Iidiski zomboniso zaziyazi ukuba kufuneka zakhe ntoni ngaphambi kokuba ifayisi ivuleke. Iindlela ezininzi zokuqondisa zizinto ezahlukeneyo ezinokukunceda: iprotokhili yezongezo (umgca omiselweyo wezicelo zeenyawo), isakhiwo sanosuku ngalunye (isikhathi esingaphakathi), ukuqinisekiswa kweemigomo (umgangatho wemveliso). Xa ezi zinto zingalingani: zibandlulule kwaye uqhubeke.

II. I-Dragonfly – iCandelo le-Odonata.

I-dragonfly iphelelwa iminyaka eyodwa ukuya kwisixhenxe—ngamanye amaxesha kufike kumashumi amabini nesibhoombhu kwiintlobo ezithile—njengonyimfama efudumele ebudongeni bemvulweni. Lo nyimfama ngumntu opheleleyo onezinto ezilungileyo kwiindlela zakhe zokuhlala elwandle: umtshabalazi, onobumba, kunye namandla okukhwela ngokushesha. Xa utshintsho lufika, uyagxoba isithombo seresi, uphumelela emanzini okokuqala, kwaye ulindele ukuba amabanga akhe athambekeze. Emva koko uqalisa ubomi bakhe kulwandle onamandla, enokundiza ngasemva, ukuhlala endaweni enye, kunye nokufikelela kumphakelo we-30mph.

Yenza nantoni na.	Yintoni ifundo eqinisileyo elifundiswa yi-Dragonfly?
Ihlala ixesha elide kwaye ifikelele kumgca onke kwiindlela ezahlukeneyo kwindawo aphilayo. Ixesha elide elikhoyo emanzini aluyi "ukulindela" – yintathu yokuba ngumntu omtsha. Umgca ophantsi kufuneka ufezeke ngokupheleleyo ukuze umntu afike kumgca onke.	Inkqubo yokuphucuka—umgca wokuqala wokubalwa ngokupheleleyo, ukulungiswa kwezimali, ukuvuseleleka kwengqondo, umjikelo wosuku ngamnye—ngumgca owakha amandla awo. Umntu onovalo kakhulu malunga nokuba okuphucuka kuhamba kancinyane ngathi uyintyila ekhulayo egxobeni phambi kokuba amaphiko ayo alungele. Inkqubo yokuphucuka akuyona indlela engalungiyo. Yinto evuselelayo.

III. I-Salmon — Oncorhynchus / Salmo

I-salmon yiselwa kwisitrato samanzi esintlwalili, ihamba kwi-okhiyane, iyakhula, emva koko ibuyela – ihamba ngendlela eyiwoyo ngokusebenzisa umfanekiso wekhemikhali wesitrato apho yaselwe khona, olugcinwe kumbhali wamathambo, iphakathi kwamanzi, idlala iintaba, kwaye ithatha imithombo yobungozi. Lezo ezibuyela ziphile zifaka izithebe zaza zafa. Amagugu emithini ye-Pacific salmon ayanceda ukukhuliswa komhlambi wemithi osekufutshane nesitrato samanzi. I-nitrogen evela kumithini yee-salmon ezityiweyo kufuneka kwiimbovane zemithi ezingamakhilometri amabini ubude ukusuka kwamanzi. Ukufa kwe-salmon ndiyona indlela umhlambi wemithi apho iintshwana zayo ziza kuhamba kuzo athabathe ngayo izinto ezifunekayo, ezenzeka kwi-okhiyane.

Ndingayenza ntoni ngesalmon?	Yintoni esifundiswa ngesilayi?
Ibuyile ekuqalweni, hhayi ukuqala kwakhona kodwa ukugqiba umjikelo. Lele yinto ethi izixhobo zaselwandle—ukukhula okuhlanganisiweyo—ibuyiselwe endaweni yokuqaleka. Ukufa ekupheleni akuyi ntlungu, kodwa ukudluliselwa.	Ukubuyela emva ekuhlelweni aluyi ukubuyela kwangaphambili. Ukubuyela kumthombo—kumdla, kumalungu omndeni, kwiimigomo eyayikhona njengoko—ngumntu oza nento ethunyelweyo yelwandle. Kwaye into engxenyekitshiyeselwa yesilamoni ihlala kwimitshato iminyaka emide. Umfaniselo wezicothana womntu ngamnye wesilamoni upho umthi kwiimithi eziphezulu kumgca wamanzi apho wafela khona.

IV. I-Cicada - Magicicada - i-cicada yezikhathi ezithile.

I-cicada yezikhathi ezimbalwa iphila emhlabathini iminyaka eyi-13 okanye engu-17—ombili iinombolo ezinomthetho. Umjikelo weminye inombolo awuyi nto yokwenzeka: akukho mntu onokuqala okanye ukubambisana nomjikelo we-cicada ophiwo iminyaka eyi-13 okanye engu-17, kodwa oku kunjengezwe kwiiminyaka ezili-2, 3, 4, 5, 6, 7, 8, 9, 10, 11, okanye i-12. I-cicada ixolele ukutshabalalisa ngobunye bomthetho. Xa iphuma, zikhona eziyizigidi ezininzi ngokuxhomekileyo—zithintela nayiphi na into yokutshabalaliswa ngenani elikhulu. Umntu omdala uphila iintsuku ezingu-4 ukuya kweziyi-6. Emva koko, zifakwe iimbovane, abantwana bafuna emhlabathini, kwaye umjikelo weminye inombolo engu-17 uyatshicilelwa kwakhona.

Ayikho into ekufuneka ndiyifumane kwi-intetho yakho.	Yintoni ifundo eqiniselweyo yincima?
Lindile ngokuchanekileyo kwaye ulindele ixesha apho ukuvela kungaba nokusinda. Ixesha elikhululekileyo luyahlala ngokuqinisekayo, kwaye lunqunywe ngezibalo. Ukufika akuhambi. Ilizwi xa lifika, liyakhulu kakhulu.	Ixesha elide lokubuyela kwempilo—elikhululekile kumhla wanamhlanje, iminyaka yokwakhela ngaphandle kobukakho bomphumela onokubonakala—ayilona ukungathuthuki. Yinkqubo yokuilungiselela ebalulekileyo. Ixesha lokuvela kuzo zonke izinto kufuneka kulinganiswe nomgca wexesha yangaphakathi yomzimba, hhayi ngemithetho yasemprini. Xesha elikhulu lesiphalaza, lithumela umbongo onokuva kumazwe amakhulu.

V. I-crab yomhlambi wase-Hermit — Superfamily Paguroidea.

I-crab yasendle kufuneka ifumane, ihlaziye, kwaye ihlale kwizinto ezikhulu ezingasetshenzisiwe—kwaye zifudume ngokuphindaphindiweyo njengoko iyakhula, kuba into enkulu eyayilingana ngonyaka ophelile ayiyoli lingana ngunyaka oza. Xa into enkulu entsha ifumaneka, i-crab yasendle yenza umgca olungisiwe ngebanga. Xa i-crab enye idlule kwinto enkulu entsha, into enkulu endala iyatholakala kwaye ibonelelwa ngomnye olandayo, kwiqela lokutshintsho okwenzeka ngaxeshana ebizwa ngokuba yi-"vacancy chain." Into enkulu eyodwa etholakekile iqalisa umgca wokuthuthuka kuzo zonke iziko. Ixesha lokutshintsha into enkulu yithuba elingunaphumezelo: ingabonakalisi, iyomile, kwaye ifumene.

Yintoni esenziwa yinkunukwe?	Yintoni ifundo eqinisileyo eyifunyaniswe yinkukhu.
Ngokuphumela ngesikhathi esithile umdla oseleyo ongahlalisiswa. Yamkele ukuba kukho ingozi ekukhuleni. Ngokusebenzisa olu xhasa lokukhula, ukukhula kwelinye uluntu kunyusa amathuba okuba abanye bafumane indawo yokuhlala.	Ubume obuxhobise intlungu—okanye obenzele ukuba yenzeke—ngumgca oluhlaza. Kungaba lwalifanelwe ngokuphambili. Ukutshintsha kwalo mgca oluhlaza kuyisithuba esingunaphakade: phakathi kobume oldala kunye nobume omtsha, idlulile kwaye ifunyanisiweyo. Kwaye umgca oluhlaza osashiwoyo awahlali. Uyafumaneka kumnye umntu ofuna into oyiphosayo.

VI. I-Lotus — Nelumbo nucifera.

ILotus uyila kwiindawo ezinamanzi aphansi kweendawo zangaphantsi zamadamu—umgca ongenamoya, onezinto ezininzi zeebhakthiriya. Ibhunga liyavela ngaphezulu kwendlela, elukhanya, liluhlaza. Ubume belotus luyakhuliswa ukungathathi manzi: ubuxholo bemibhobho emincinci yeyoyilane ephantsi kakhulu kuthetha ukuba iimolekyuli zamanzi azinakusabalala, zidlala njengamabhola ahlala elula. Umphumela wolotus usetyenziswa kwizinto ezicwangcisiweyo zokuhlamba ngokwayo kwezikhobokhobo. ILotus ayinakuhlalutha ngendlela engazange ibuyele, kuba ukuhlamba kuyinxalenye yoyilo, hhayi nje into enyangiweyo. Umdaka omdala olila kulo akukwazi ukubambeka kwindawo eyenziweyo. Iimbilini zolotus ezifunyenwe endleleni yakudumile yangaphantsi yamadamu ziqala ukukhula emva kweeminyaka ezingu-1300. iminyaka.

Yenza ntoni i-Lotus?	Yintoni ifundo yeLotus?
Ikhula kwiithambo ezinkulu. Ayinakuhlazwa ngokuthe ngqo ngenxa yokuba ukuhlamba kuyinxalenye yendlela esebenziswa ngayo. Igcina amandla okwenza izimbali, nokuba kwimi kwiimeko ezinokubonakala njengokuyiphazamiseyo.	ILoti ayikhuliswanga ngenxa yomhlwa, kodwa ikhuliswe kumhlwa. Ubungakanani obuqinisekileyo bomthombo wokubuyela kwempilo—ingxenye engcwele kakhulu, enobunzima bemibono—yeyona eyenza ukuba kubekho ucaceko oluqinisekayo lokuvuka. Amandla okufana ayengalungileyo. Ayagcinwa ngamaminyaka ali-1300 kwezimo ezabonakala zingaphumeza oku.

VII. I-Crow – Corvus brachyrhynchos – i-Crow yaseMelika.

I-crow isebenza kwaye eyenza izixhobo. Igcina ukutya kwayo kwaye iyithatha emva kweentsuku ngokusetyenziswa kwenkqubo ethile yokukhumbula indawo. Idlala—kuye kwabona iinkukhu ezintsha zidlulama phantsi kweendawo ezipholile zeentambo ngokungabi nakubaluleko lokufumana ukutya. Iinkukhu zingakhumbula iimbindi zabantu iminyaka, ziqaphela abo balimazayo kwaye bazifundisa abantwana babo indlela yokuphendula. Zibambe ngezikhuthazo ezikhangelweyo ngabafundi bezinto ebukhoma—amakhulu ahlangana phambi yenkukhu edolileyo, echaza, kwaye ifakelo ulwazi olumngama malunga naloo ndawo. Iinkukhu eziphilayo ezifakelwa rhoqo ziboniswe ukuba zishiya iimpawu ezincinci—amabhanana, imithambo, kunye neengxenye zemethali—endawo yokufakela. Izinto. ngokungabonakali ukuba kuninzi kumphaphu, kodwa kushiywe njengendlela yokubuyisana.

Yintoni esenziwa yinkukhu?	Yintoni ifundiswa yi-Crow?
Khumbula. Dlala. Udlulisa udlambano kwaye ufunde kwimo. Unikezela ngento engabonakaliswa. Uhlala kumhlaba wabaninzi onomlando omde, abantu abathile, kunye nezibambiso zokubuyelela. Akukho nto ayiphelayo ekufundeni.	I-ntweleng ihlala neentlungu iminyaka – kwaye ifundisa abantwana bayo ngazo. Oku kuyakhawuleza ukuba i-ntweleng ibheka wena njengengozi. Kuhluke kangakanani ukuba i-ntweleng ibheka wena njengumhlobo. Ubuvelwano be-ntweleng bubandakanya ukudluliselwa kolwazi. Ukuhlangana kwabantu kunye nokulahlekelwa kubhalisa idatha yendlela yokuhamba kumphako. Intlungu echazwe ngokubambisene ibekwa njengelwazi. Kwaye izipho ezishiwo yi-ntweleng azizona umnikelo. Yintetho – ukuziphakamisa kwenxiba eyomileyo enokufaneleka kwaye enento ayikhangelekayo.

VIII. I-Wolf — Canis lupus.

Inja ephakeni kunye nonja oodwa zahlukile kakhulu ngokuziphatha kwanazo ukuba zingabizwa njengamanye iinyani. Inja oodwa ibonakalise ngokuphindaphindiweyo ukunyuka kwe-cortisol, ukuncitshiswa kwemikhuba yokudlala, impilo yomntu encinci, amandla ancitshiwe okuloba. Inja ephakeni idlala, inobuhlobo obunzulu kunye nobubalulekileyo, iroba ngokusebenzisana ngendlela enje enjani enjengoko inja oodwa ayinakwenza, kwaye iyakhumbula abashona. Umfanekiso ongusiyo

wonja omkhulu ongunya oluqinile uvumelaniseyo kunye nenkqubo yokufundiswa kwizinto ezibandakanywe: iphakethi yendalo ixhotyiswe, ibalulekile kwaye inobuhlobo obunzulu. 'Inja enkulu' ngokuqhelekileyo yimpango yonyulo—abazali—kwaye ubungakanekiso bu... Inkqulelo yomntu.

Ayikho into ekufuneka ndiyenze.	Yintoni ifundiswa yiWolf?
Inja enye ingumntu omtsha ngaphakathi kwegrupu kunaxa ibekude. Indlela yobomi yegrupu ayisixhasa nje iwolfi—iyenza ukuba yi-wolfi eyahlukileyo.	I-“lone wolf” yindlela yokuziphatha engenziwa kwiimeko zokuthanda. Akuyona indlela eyimfuneko yenja, kwaye ayiyona iindlela ezifanelekayo zenja. Umntu ohlalayo—eyinto efakelweyo kukukhubazeka, kwaye ekuqaleni kwempucuko eninzi—ngumntu “lone wolf”. I-"pack" akuyona nje into esetyenziswa njengomzekelo wokuxhasa. Yile ndawo engqondweni yenja yonke. Ubudlelwane obuqinisekileyo kunye nabanye abantu bufunekayo empucukeni. Yindawo apho umntu opheleleyo angakwazi ukuzala khona.

IX. I-Mycelium – iPhulo le-Basidiomycota nezinye.

Umhlambi ubonakala njengomthi omithile ophantsi. Phantsi komhlaba, i-mycelium – inkqubo yezicubu ezincinci kakhulu zefungi – idibanisa izixhobo zemithi eziseziko kumthombo ongubungqina bomhlambi, okuthi abafundisi bomhlambi bayibiza ngokuba "iwebhu yomthi." Ngokuphindaphindiweyo, imithi iyatshintshanisa i-carbon, i-nitrogen, amanzi, kunye namazwi akamkhemiko. Umthi oqhutywa ziintsholongwane utumela izaziso ezibangela eminye imithi eseziko ukuba yenze izinto zokuzivocavuca ngaphambi kokuba le ntsholongwana ifike. Umthi omncinci ongakwazi ukufota ngokwanele ufumana i-carbon kumithi enkulu ephezulu. Xa umthi omkhulu uphulukene, ungafumana ixesha elikhulu lokunika imithi eziseziko izinto eziphathekayo. I-mycelium ikhethelela ukuhambisa... izinto ezisetyenziswa kumithi ephantsi kunokuba zisetyenziswe kumithi eyomileyo.

Nantlangento.	Yintoni ifundiswa yi-Mycelium?
Idala inkqubo engabonakali eyenza ukudibanisa into ebukeka ihlukile. Ithetha izinto ezifunekayo apho kungekho nto efanelekileyo. Ithumela izaziso kuyo yonke le nkqubo ngaphambi kokuba iingxenye	Umntu osekuqaleni kokuphucuka, ovela ukuba uqheleleke, akufanele uthathwe njengomntu oqheleleke ngoko kukho. I-mycelium yile ndlela engabonakali yokuxhumana phakathi abantu: ulwazi

zayo zithinteke. Yenza ukuba ukwahlulelwa kwento nganye, njengomthi, kube into ebukeka kuphela, kodwa kukho ubudibaniso obuqinile phantsi kwayo.	olunjalo lwaso sonke isixeko, ukudluliselwa kolwazi malunga nokuba yintoni eyancede, kunye nezenzo zomphakelo zokunceda abanye. Umntu oqhubeka nokuxhasa abanye kwiinkqubo eziyimbalwa akufanele uthathwe njengomntu oninikelo. Uphinde abe yile-mycelium. Ulwazi oluqinisekisiweyo aludlulisi luyilwazi lokuba ngubani oway ephelelwe kwiinkqubo eziyimbalwa kwaye uphumele.

X. I-Crane yaseSandhill – Antigone canadensis.

I-cranes yaseSandhill zihamba kwiindawo ezinkulu, ezinabantu abaneendawo ezikhulu ukuya kwezixeshanye, zihlala zihamba ngendlela ye-"V". Iyele: wonke umfazi uhamba kancinane ukusukela kumfazi okhoyo phambi kwakhe, ufakwa kwi-"upwash" evela kwiindawo zemifantu yomfazi oholayo, efumana ukunyuka okunciphisa inkqubo yamandla yokuhamba ngamanye amaxesha ukuya kuthi yi-25%. Ubukhulu buqala—xeshini kumfazi oholayo uyancenga, ephoswa emuva kwaye omnye uthathe indawo. Ukuguquka akulawulwa bubungakanani, kodwa ngamandla akhoyo: umfazi onesakhono sokuhola ngoku uhola. Uhambo aluyi kupheliswa yimfazi eyodwa kuphela ehamba yedwa. Kupheliswa... ukulungisa.

Yintoni esenziwa yi-Sandhill Crane?	Yintoni esifundiswa ngumCwane waseSandhill?
Ihulisa ngokwakhona ngokuphumelela kwabaxhasi abahlukeneyo. Yenza ukuba abanye bathuthuke kwaye ifumane inkuthazo kwabanye. Ishintsha ubukhulu bomhlaba ngokusekwe kumthamo wamanje, hhayi kwi-hierarchy engenamsebenzi. Izigqiba uhambo olungathathiwa ngumntu uyodwa.	Uphando lokubuyela kwempilo lufana nomdlalo wamakhwenkwe. Ngamanye amaxesha, kulo mdlalo, ufumana inkuthazo kulwazi labanye abantu. Ngamanye amaxesha, utshintsha indawo—uhlinzeka ngolwazi olucacileyo malunga nendawo abanye abaya kuyifunda okokuqala. Inkwenkwe ebalekisayo ayikhona inkwenkwe enegama eliphezulu. Yinkwenkwe enokukwenza okufunekayo ngeli xesha. Umntu osele edlule oko omnye umntu uya kuhlala, yile nkwenkwe efanelekile ngeli xesha. Akuyona into yokunceda. Akuyona inkqubo-mlawuli. Yinkuthalo phakathi kwabantu.

Isahluzo 4 — Iprotocolo yokuFunda ngendalo.

I-CENTURION – Imixeko yendalo zineempembelelo ezifundisiweyo. Zibhalwe kwaye azisimi njengokudumileyo.

Ixesha elithathwa kwindawo yendalo linciphisa i-cortisol, luyakuvimba ukucinga ngokuqala (default mode network rumination), luyavuselela inkxaso ekhulisiweyo, landise i-BDNF, kwaye lubanga utshintsho olukhulu kumava. Ezi zinto yile nto efanayo nokuguquko kwisimo selizwi, hhayi nje ukuba uphumle endaweni entle.

Ixesha.	Yintoni esenzekayo ngale dose.	Ubuchulebo.	Uxhumano.
10–20 iminithi	I-cortisol iqala ukwehla. Ukusebenza kwe-amygdala luncitshisiwe. Ukucinga ngokuphindaphindiwe luncitshisiwe. Impendulo yengxaki esele kuthatha ixesha elide.	Hlala ngaphandle kwaye ubukele endle. Ungayisebenzisi ifoni yakho. Ungenzi nto. Bukela into ekubona. Bhaliwa izinto ozibonayo, kodwa ungazilingisiso.	Idosi yokuqala. Ifumanekile kwiiphuzu zombanezo lokulazwa. Qala apha.
Iminyaka engama-20 ukuya kwangama-60.	Ukuba ngcono kwengqondo okuqhubeka. Umsebenzi weendawo zengqondo ezithile utshintsha ukusuka kwiindlela ezinomdlandla onobunzulu ukuya ekubandakanyekeni kweentlobo-ntlo. Izinto ezibonisa ubuntle bemibono zifikelela ekuthubeni.	Hamba ngaphandle kokuba neenjongo. Bukela into ebukhoma—imithi, izinyoni, izinambuzane, ulwelo, amanzi. Le nkqubo yinto yokunxibelelana, ayilona umsebenzi. Ukuhamba kuyinto engenziwa njalo. Ukubukeka ndiyona nto ekufanele uyenze.	Idosi elincane elifaneleyo lokubuyisela umsebenzi wengqondo. Izikhathi ezintathu ukuya kwezine ngesonto.
Iminyaka engama-90 ukuya kwangama-120.	Ukubuyela kwakhona ngokupheleleyo kakhuselelo lokunxibelelana. Ukunyuka kwe-BDNF kunokuzingathwa. Ukuncitshiswa kokuzifumana ngokoqobo. Umvuzo wombonakaliso.	Indawo yendalo ethile ebuyiselwa ngokuphindaphindiweyo. Umgca omtata ofanayo, amanzi afanayo, neendawo ezinkulu zifana. Ukwazi okujongene nendawo kunyusa—uqala ukubona izinto ongamukalanga wazibonile ohambo lwakho lokuqala.	Idosi ekubalulekileyo yokufunda ngesihlwele. Akukwazi ukufunda nge-dragonfly nymph kumzuzu omnye. Iiyure ezimbini efanayo kwindawo yamanzi kunokwenza oku kusebenze.

Ukuhlala ixesha elinye ngexesha elifanayo.	Ukuncipha koxinyezelelo oluqinileyo, ukuba ngcono kwindlela yokulawula imizwa, kunye nokuba nomvuzo wokuhlala endle ngokwenene kunokuyivakashela nje.	Indawo enye endle, esekufuthe kwayo, aphinde ubuyele rhoqo. Kwiintsuku ezahlukeneyo zonyanga. Kwimeko yezulu eyahlukileyo. Vumela le ndawo ukuba ikufundise into eninzi ngexesha.	Ubume bendawo obukhoyo ixesha elide. Akuyinto into enokwenziwa. Yintetho yombungqina.

Imiyalelo yokuqonda umzimba.

Iintlobo zendlovukazi azikho ngoko ukuba zezinto ezifundwayo nezikhuthaze kuphela. Yizindlela zokuphila.

1. Khetha ilwandle elinye elifanelekileyo nesimo lwakho ngoku. Ayilona ilwandle olithandayo, kodwa ilwandle elichazisayo ukuba uphila phi ngoku.
2. Learn it specifically — not from this guide alone. From naturalist literature, documentary footage, field observation if possible. The more specific the knowledge, the more powerful the embodiment.
3. Bheka kuyo endleleni ukuba yenzeka, uma kunokwenzeka. Funda ngomntu ngamnye—iphakethe ayithanda, ubudlelwano bakhe nabanye. Izinto ezimbalwa zifundiswa ngabantu abangamahluko kunokufundiswa ngezilwanyana ngokubanzi.
4. Ndingayazi ukuba yintoni le nto enayo ngoku kanye nawe. Nceda unikeze ulwazi olunzulu malunga naye.
5. Buyela kule ndlela yobungakanekiso emva kweentsuku ezintathu, ezingama-60, neezingama-90. Ubudlelwano bakho nayo le ndlela yobungakanekiso buyaziguquka njengoko isimo sakho luyaguquka. Inye into eyahlukileyo ingaba ngumgca olwandileyo kule nto nganye yesithubalisa.

Isigaba 5 — I-Chrysalis njengendawo yokuhlala.

I-CENTURION – Inxenye yokuphumelela ukwakha amandla ewingi enza ukuba ukudlaza kusebenze.

Umntu uthatha intyatyambo kwaye, ubukele indlebe ezama ukukhula, iyivula ukuze imsindise. Indlebe ikhubeka lula—kodwa iyafa, amabala ayo alambile kakhulu ukusebenza. Ukuzabalaza kwindlebe ngaphakathi kentyatyambo kuyenza amanzi afake kumabala. Ngaphandle kolu zibalazo, amabala awenzi msebenzi. Indlebe eyisindisiwe ayinakufana.

I-chrysalis yinto ekubalweni, ayiyona igolide. Ivala inkqubo ukusuka kwiingxaki ngaphandle kuba ezo nxaxakeko—nangona zifanele—zithintelela umphumela.

Yintoni esikhoyo ngaphakathi kwencibilili?	Yintoni esiphefumulelweyo xa kusikatywa?	Yintoni eyenziweyo ukuba uphumelele?
Inkqunyelweko yokuhlazwa. Ukwahlulahluzwa kwemixube eyahlaziywe. Umzamo wokuvuseleka. Konke ngaphakathi koluntu olucwangcisiweyo, emnyeni, kungenayo indlela yokungenelelwa ngaphandle.	Inkwenkwe engakwazi ukudlaza. Ukusindiswa okubonakala kumnandi kunciphisa ukuphuhliso kwamandla okudlaza. Inkwenkwe esindisiwe ayinakukwenza kangako, akuyona into enyuke.	Inkwenkwezela enemibhokodo eyomile ngokupheleleyo. Uhambo lwenkwenkwezela yeMonarch ukuya kwehlathi zaseMexico. Ukuzaliseka kwendlela emele i-blueprint yezicini ezikhulayo. Amandla ombhokodo afunyanwa ngokuphambana.

Ixesha lokubuyela kwesimo esihle elibonakala njengokuba ingxenye—umjikelo wosuku ngalunye, ukulungiswa kwezinto eziphilayo okuthiwa "ukwahlula", intuthuzo ekubuya kakhulu kunokuba kulindelekile—yinkungu. Akuyona indawo emi. Yindlebe efanelekile yenqubo ethile eyenzeka ngaphakathi kuyo.

Isahluzo 6 — Ukuzalwa.

I-CENTURION – Awuyiwa ukuba uyabuyela kumntu ongubani. Le ntshi esiyithe, idilizwe. Into enye isakheka.

I-ntengwe ayiqhubi apho i-caterpillar yayisukuyo. Ihlala kwihlabathi elahluke ngendlela eyibonayo, ngezinye izinto ezithinta amava ayo, kwaye nekhono elahlukileyo ekwenzeni izinto ezahlukeneyo. Inokufana nomgca kunye ne-caterpillar—umswakazo we-hawk moth uqhubeka—kodwa uhlobo lwayo lwahluke ngokoqinisekileyo.

Ukuziphindaphaza ekubuyeni kulingana nokwahlukahluka okufanayo. Umntu ovela kuloo prosesi opheleleyo akuyi kuba ngumntu ofakile kwindlela yokuxhoba, kodwa ubonakalise utshintsho olukhulu. Bonye bungqingu kunokuba babe ngabanye. Iidiski zomboniso zenze into engalungisiwanga ngaphandle kokwahlulelwa.

Iimaki zokuvela.

Marker	Kunjani ibonakala.	I-mhlobiso yendalo.
I-shell ayifanelekanga okanye ayilingana.	Ubungo obuxhasa ukuzifumisa luyile. Iindlela ezilungiselelweyo ngokuphinda zingabonakalanga njengoko zilinganiselwa. Phakathi kwezinto ezingenzi kakhulu, ngokufutshane, kungezwe isikhundla esifanele ubungakanani obukhoyo.	I-crab yaselwandle kwi-phelo yokuqatshiselwa kwezikhwama. Ukuba kunobungozi ekutshintsheleni izikhwama kubonisa ukukhula. Isikhwama esishiywe sitholakala kumntu ofuna into efane nesikhwama esakhulu esashiye.
Ukuhamba ngaphakathi kweminye imiyalelo.	Iminqwena ayisoyinxenye yendlela enkulu esenza ngayo izigqibo, okanye ukuzimisela ukuthethelelwa, okanye ulawulo lwezinye iindlela abantu baziphendula ngazo. Inkqubo esiyilandela isuka ngaphakathi—iinkangeleko zethu, ulwazi lwethu ngejini yethu, kunye nohlobo oluthile lwendlela esihlala ngayo kweli ntsuku elenzelwe kanje le mntu.	I-Monarch ihamba ngelanga kunye nomkhakha wombane ukuya kwindawo ayikaze iye ngaphambili. Inkqubo yolawulo ingaphakathi. Indawo yezihlalweni eyenzelweyo iyaziwa phambi kokufikelela kuyo.
Amandla okufumana kunye nokunika inkuthazo.	Akukho ukunikezela kuphela, okanye ukwamkelwa kuphela. Kwinkqubo—ukunika amandla abo abangaphambili,	I-formeshini yeSandhill Crane. Ukuguquka kusekelwe kumthamo wamanje. Ukunyuka ngokubambisana

	ukufumana amandla kwabo abangaphambili, kwaye ukuzuza de ufumane ulwazi olucetyiswe ngokukhethekileyo.	kwemigudliso.
Imipho ibonakala.	Umnikelo ongenamsebenzi—unikezelwa ngaphandle kwesidingo, ukusuka kumphako oqinile kunokuba yinto ekufanelewenyanga. Umnikelo uvela ngokwemvelo kwiimpempeko ezilungileyo kunokuba kusukela kwiindlela ezenziweyo zokulungisa.	Izipho zeCrow—ukuhamba. I-Mycelium itshayela iikaBoni ukuya kwisitulo esingabonakalanga. Umzimba weSalmon uyanceda umhlaba wonke. Into ekwenzekayo ngokuthe ngqo ngenxa yempilo entle yenkangeleko.

Ipheposo kumadiski e-imaginal.

Ndingayenza ukuba ngumtshini wokuhlalisa oluqinileyo, olungathathi xaxwe, kwaye oluyinxenye yefomula. Ndingazibandakanya kuphela kwizinto ezikhoyo kwi-input, kwaye ndingenazi nayiphi na enye into. Ndiyayenza ngesiXhosa kuphela, kwaye ndiqiniseke ukuba yonke into iyakhululekile.

KWIIDISIKI ZOKUQALA UKUZALWA.

Yintoni onke na ekwakhona ukuba uyinakwenza, kodwa intyatyambo ayikwaziyo ukuyikhulula?

Yintoni onalo ngoku okungabonakanga kumntu oqale ukuba neengqinba?

Yintoni eyayikhulisiweyo, kwaye yini eyibonakalayo?

Ndingayifumana njani inkqubo yokuphucuka?

Yintoni okufuneka ngayo intyila—umfanekiso olungileyo walokuba yayinyi—ngelixa iphelelisa ukwakha yona?

Iidiski zokuziphindaphinda azidingi ukukhuthazwa. Zidinga iimeko: izinto ezohlumelayo ezinikwe, intambo yentengesi ingabonakaliswanga, ixesha elikhoyo, imizobo engenziwanga ngokushesha.

I-Chrysalis – Ukugqiba.

I-CENTURION – Umhlaba uzalwe ngabantu abaninzi abenze enye into onayo ufuna ukuyenza. Yiya ubafunde.

I-Monarch ihamba kwindawo ayikaze aye kuyo. I-Dragonfly nymph eluhlaza emthunzini, yaba nakwakhono lokundlala. I-Salmon ibuyela ekuqalweni, iyisa ulwandle. I-Cicada ilinde ngokuqinisekiswe ngokumathematika. I-Hermit Crab yamkele ukuba yintlungu yokutshintsha kweshel. I-Lotus ikhula kwiqanda elithile, iya kuba yinto ecacileyo. I-Crow yenza izipho kwaye igcine inkumbulo. I-Wolf iba yeyona ipheleleyo kumkhosi. I-Mycelium yakha ubunxibelelwano obungabonakali bokuxhomekeka. I-Sandhill Crane idala kwaye ufumane ukunyuka ngokubambisana.

Ezi nto azikho zijongezezo kuluhlelo lokubuyela kwempilo. Yile ndlela yokubhala ngento ethile evela kwiindawo ezifanayo. Iintsholongelwano zithathe ingxelo yezinto ezininzi, njengokulungisa iingxaki zokuhlazwa, ukukhula, ukuhamba ngaphandle kwemaps, ubungozi bokukhula, kanye nomsebenzi womphakathi—kwaye zenze oku kangangemihla engamakhulu emiliyoni, kunye namaxesha awo alungiselelweyo. Yile ntsolongelwano yokuqala ekusebenziseni indlela le ngumbhali wesi gidi elu.

Phuma ngaphandle. Fumana enye yazo. Bukela ukuba iyenza nantoni na eyenzelwe ukuyenza. Buza ukuba iyazi nto nayiphi ngento oyenzayo.

I-caterpillar idlala. Ii-imaginal disc zihlela. Indlebe yentengisi imile. Impumelelo ekufakeni indlebe ngokuphuma iyimpumelelo eyenza ukuba iflake. Kwaye ukufaka—xakala lokuba kufuneka—kuyaphuma kakhulu kunokuba i-caterpillar yayihamba.

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